

WHAT IS CLAIMED IS:

Sub A17
1. In a computer device connected to a remote server, a method comprising:

receiving a file system read request at a client device;
5 converting the file system read request to an access request of a remote transfer protocol;
communicating the access request to the remote server having data corresponding to the read request maintained thereby;

10 receiving data from the remote server in response to the access request; and

reconverting the received data of the remote transfer protocol to correspond to the file system read request.

15 2. The method of claim 1 wherein the file system read request is converted to an HTTP byte range request.

3. The method of claim 1 wherein the data corresponding to the read request maintained on the remote server is compressed, and wherein reconverting the received data of the remote transfer protocol to correspond to the file system read request includes decompressing the data.

4. The method of claim 1 wherein converting the file system read request to an access request includes requesting at least one block of data corresponding to more data than the read request, and wherein reconverting the received data of 5 the remote transfer protocol to correspond to the file system read request includes not returning more data than requested.

5. The method of claim 1 further comprising, caching at least some of the received data at the client device.

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6. The method of claim 1 wherein converting the file system read request to an access request of a remote transfer protocol includes, determining a set of at least one block in a remote file having the data therein, and converting the set 15 of at least one block to a byte range request.

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7. The method of claim 6 further comprising, detecting a sequential access pattern of requested blocks, and wherein converting the set of at least one block to a byte range 20 request includes increasing the byte range beyond the range corresponding to the set of at least one block.

8. The method of claim 1 wherein the data corresponding to the read request is maintained on the remote server as linear data.

5 9. The method of claim 1 further comprising receiving a file system write request at a client device, converting the file system write request to a request of a remote transfer protocol, and communicating the request to the remote server.

10 10. The method of claim 1 further comprising receiving a file system open request at a client device.

11. The method of claim 1 further comprising locally storing directory information maintained on the remote server.

15 12. The method of claim 1 wherein the computer device is connected to the remote server via the Internet.

20 13. In a computer device connected to a remote server, a system comprising:

a file system driver configured to receive file system requests directed to a remotely located volume, and being further configured to determine file location information on the volume;

a block driver connected to the file system driver to receive block requests corresponding to file locations therefrom, and being configured to convert the block requests into byte range requests of a remote transfer protocol and

5 communicate the byte range request to the remote server; and

the block driver returning data corresponding to the byte range request to the file system driver for conversion to data that satisfies the file system request.

10 14. The system of claim 13 wherein the file system driver maintains file location information in local storage of the computer device.

15 15. The system of claim 13 wherein the remote transfer protocol comprises HTTP.

16. The system of claim 13 wherein the file system driver is further configured to decompress data returned from the block driver.

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17. The system of claim 13 wherein the block driver includes a detection mechanism for detecting a pattern of block accesses.

18. The system of claim 17 wherein the detection mechanism causes the block driver to increase the size of at least one byte range request in response to detection of a pattern.

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19. The system of claim 13 wherein the file system request is a read request for a quantity of data, and wherein the file system driver provides a block request that encompasses at least the quantity of data requested.

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20. The system of claim 19 wherein the file system request is a read request for a quantity of data, and wherein the file system driver provides a block request that encompasses at least the quantity of data requested.

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21. The system of claim 20 further comprising at least one edge buffer, and wherein the file system driver receives at least one block of data and maintains the data in at least one of the edge buffers.

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22. The system of claim 13 further comprising a segment cache, and wherein the file system driver maintains returned data in the segment cache.

23. The system of claim 22 wherein the file system driver decompresses data, and wherein the file system driver maintains decompressed data in the segment cache.

5 24. The system of claim 13 wherein the computer device is connected to the remote server via the Internet.

25. A computer-readable medium having computer-executable instructions, comprising:

10 receiving a file system request at a client device;
generating a remote transfer protocol request based on the file system request;
communicating the remote transfer protocol request to a remote server having data corresponding to the remote transfer
15 protocol request;
receiving data from the remote server in response to the remote transfer protocol request; and
satisfying the file system request based on the data received in response to the remote transfer protocol request.

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26. The computer-readable medium of claim 25 wherein the remote transfer protocol request comprises an HTTP-based request.